



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,627	03/28/2001	Daisuke Kotake	2355.12118	1723
5514	7590	01/25/2005	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			EDWARDS, PATRICK L	
			ART UNIT	PAPER NUMBER
			2621	

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/818,627	<b>Applicant(s)</b> KOTAKE ET AL.	
	<b>Examiner</b> Patrick L Edwards	<b>Art Unit</b> 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,5-7,10,11,15-17,20,33,35,37 and 38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,5-7,10,11,15-17,20,33,35,37 and 38 is/are rejected.
- 7) ☒ Claim(s) 1, 5-7, 11, 15-17, 33, 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 11, 2004 has been entered.

### *Response to Arguments*

2. The applicant's arguments, filed on November 11, 2004, have been fully considered. A response to these arguments is provided below.

## Information Disclosure Statement

Summary of Argument: Applicant has submitted an additional form 1449 (filed October 18, 2004).

Examiner's Response: This form is redundant and unnecessary. The two documents listed on the form were considered by the examiner in the previously submitted 1449, which was signed and mailed out with the final rejection on August 11, 2004. The signed copy of this form is in the file, and the documents are therefore on record with the office. The redundant IDS will be ignored.

## Prior Art Rejections

Summary of Argument: Applicant traverses the rejection to claims 1, 11, 33, and 35 under 35 USC § 103 as being unpatentable over Boyer (USPN 6,337,882). The applicant's arguments are directed towards the claimed limitation that "an angular field of view of the partial image doubles the angular field of view of the display." Specifically, applicant argues that the design choice rejection was flawed both legally and factually (see applicant's remarks pgs 10-11). Applicant argues that the rejection was flawed legally because it lacked a proper motivation, and that it was flawed factually because it incorrectly asserted that the claimed feature did not solve a stated problem.

Examiner's Response: Applicant's arguments have been fully considered but are not persuasive. Applicant's assertion that, as a matter of law, there must be some motivation or suggestion that would have led one skilled in the art to modify the prior art reference to obtain a feature. The examiner agrees, but would like to further point out that 'the rationale to modify or combine the prior art does not have to be expressly stated in the prior art ... it may be ... reasoned from legal precedent established by prior case law' (see MPEP § 2144). Applicant is further reminded of MPEP § 2144.04, which explains that the examiner may adopt the rationale used by the court, if the facts of a prior legal decision are sufficiently similar to those in an application under examination. This section cites *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338 (Fed. Cir. 1984), which states that "where the only difference between

Art Unit: 2621

the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distance from the prior art device.”

This is exactly the type of situation that we are currently dealing with. The prior art Boyer reference discloses an angular field of display which is at least twice the size of the angular field of view of the display (see Boyer figure 1D: element 185 is the display, and element 195 is the partial image). Boyer does not give the exact dimensions of the angular field of view of the partial image in relation to the angular field of view of the display, but merely provides us with Figure 1D. Applicant is arguing that the lack of a disclosure of the exact size ration between the fields of view of the partial image and the display makes the instant application allowable over the Boyer reference. The above case law, however, shows the fallacy of applicant’s argument with regard to motivation or suggestion.

With respect to the applicant’s argument that the claimed feature does not solve a stated problem, the applicant has misinterpreted the examiner’s position and is arguing an issue that was simply never raised. The examiner is fully aware that having a partial image field of view which is larger than the display field of view solves a problem. The Boyer reference clearly shows this situation in Figure 1D, and clearly explains that the larger partial image field of view solves a specific problem. This is the same problem that the applicant is solving by making the partial image field of view double the display field of view. This issue is not in dispute. The examiner is not asserting that it would have been an obvious design choice modification to make the partial image FOV larger than the display FOV. The examiner is merely stating that it would have been an obvious matter of design choice to make the partial image FOV *exactly* twice that of the display FOV. The claim is basically saying that (partial image FOV =  $2.0 * (\text{display FOV})$ ). The examiner is saying that it is an obvious design choice for the previous equation to have the number 2.0, rather than 2.1, or  $3/2$ , or 1.9, or 3, etc., etc. Because having that number as *exactly* 2.0 does not solve any stated problem and is not for any particular purpose, and it appears that the image reproduction apparatus would perform equally well if the number 2.0 were changed to some other number. Indeed, the applicant has not provided (in either disclosure or argument) any explanation of the necessity that the number be 2.0. Therefore, the 103 rejection from the prior action was proper and the design choice rejection will not be withdrawn.

### *Claim Objections*

3. The follow quotations of 37 CFR § 1.75(a) and (d)(1) provide the basis of objection:

(a) The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

(d)(1) The claim or claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description. (See § 1.58(a)).

Art Unit: 2621

4. Claims 1, 11, 33, 35 are objected to under 37 CFR § (d)(1) as failing to particularly point out and distinctly claim the subject matter which the applicant regards as his invention or discovery, and failing to conform to the invention as set forth in the remainder of the specification.

Referring to claims 1, 11, 33, and 35, these claims recite the added limitation of 'inputting a user's designation regarding a position and direction of a viewpoint.' Applicant recites, in the remarks section at page 10, that support for this amendment can be found in the original disclosure at pg. 25 line 24 – pg. 26 line 8. This excerpt from the disclosure, however, does not provide support for the added limitation. In fact, it does not appear as if there is any support in the original disclosure for a 'user designation'. Indeed, neither the phrase 'user designation' nor the word 'designation' appear in the original disclosure at all. Since there is no support for 'user designation', it follows that there can not be support for 'inputting user designation'.

Claims 5-7 and 15-17 are objected to because of their dependency on the objected to claims.

5. Claims 1, 11, 33, and 35 are objected to under 37 CFR § (a) as failing to particularly point out and distinctly claim the subject matter which the applicant regards as his invention or discovery, and failing to conform to the invention as set forth in the remainder of the specification.

Referring to claims 1, 11, 33, and 35, the metes and bounds of the term 'user designation' are not clear as currently recited in the claim. As was discussed above, the specification provides no help in defining this term.

The claims recite that this 'user designation' is regarding a position and direction of a viewpoint. The original disclosure does provide proper support for viewpoint position and direction. Therefore, for examination purposes, the term designation will be given its plain definition (i.e. 'to point out', see websters dictionary), and the term 'user designation' will be interpreted as a position and direction of a viewpoint.

Claims 5-7 and 15-17 are objected to because of their dependency on the objected to claims.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 11, 33 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyer et al (USPN 6,337,882).

With regard to claim 1, which is representative of claim 11, Boyer discloses a storage unit configured to store a plurality of partial images (element 220 of Fig. 2). The partial images are obtained by dividing a panoramic image by a predetermined angular field of view (col. 6 lines 22-24). The horizontal partitioning of a panoramic

Art Unit: 2621

image as disclosed in Boyer is analogous to the division of a panoramic image as recited in the claim. This is done for a plurality of panoramic images (col. 3 lines 53-55), each of which inherently correspond to a plurality of viewpoints as recited in the claim.

Boyer further discloses an input unit configured to input a user's designation regarding a position and direction of a viewpoint (Boyer col. 2 lines 29-30).

Boyer further discloses a selection unit configured to select a partial image from storage based on information about a position and a direction of a view point, and an angular field of view of a display (col. 6 lines 31-52). The inflated images disclosed in Boyer are analogous to the partial images recited in the claim. Boyer discloses selecting these inflated images based on the selected image view, which is analogous to viewpoint position and direction, and angular field of view of a display as recited in the claim. Boyer also discloses that the selected image views are displayed on a display screen (col. 4 line 13).

Boyer further discloses a generation unit configured to generate an image corresponding to the position and direction of a viewpoint from the selected partial image, and providing the generated image for the display means (col. 6 line 62 – col. 7 line 6).

Boyer further discloses that adjacent partial images share overlapping portions (col. 6 lines 22-24) and that the whole of the partial image is overlapped by adjacent partial images (col. 6 lines 22-30 in conjunction with Figure 1C).

Boyer further discloses that the angular field of view of the partial image is significantly larger than the angular field of the display (col. 7 lines 2-4 in conjunction with Figure 1D). Figure 1D clearly shows the size relationship between the two angular fields of view. In fact, if one were visually estimating the relationship between the angular field of view of partial image 195 and the angular field of view of the display 185, one would probably guess that the angular field of view of the partial image doubled the angular field of view of the display. Be that as it may, it still stands that Boyer never explicitly recites that the angular field of view of 195 is exactly twice the angular field of view of 185.

However, it would have been an obvious matter of design choice to modify Boyer by having the partial image field of view exactly double the display field of view, since the applicant has not disclosed that having a partial image field of view which is exactly twice the size of a display field of view solves any stated problem or is for any particular purpose and it appears that the image reproduction apparatus would perform equally well if the partial image field of view wasn't exactly twice the size of the display field of view.

With regard to claims 33 and 35, a computer-readable storage medium that stores a program which causes the computer to execute the steps of a method is essential if the image processing method disclosed in Boyer is to function. Therefore, a computer program stored on a storage medium is inherent in the teachings of Boyer.

Art Unit: 2621

8. Claims 5, 10, 15, 20, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyer as applied to claims 1 and 11 above, and further in view of Toyofuku et al (USPN 6,661,455). The arguments as to the relevance of Boyer as applied above are incorporated herein.

With regard to claim 5, which is representative of claim 15, Boyer fails to expressly disclose that the partial images are stored as independent files. Toyofuku, however, discloses storing the frames which make up a panoramic image as independent files (Toyofuku col. 10 lines 46-57). The frames disclosed in Toyofuku are analogous to the partial images as recited in the claim. It would have been obvious to one reasonably skilled in the art at the time of the invention to modify Boyer's image reproduction apparatus to specify that the partial images are stored as independent files in memory as taught by Toyofuku. Such a modification would have allowed for a modular system in which the partial images of a panoramic image were separated in memory and distinct.

With regard to claim 10, which is representative of claim 20, Boyer further discloses 'drawing' the selected partial images in a successive memory space (Boyer col. 5 lines 18-23: The reference describes storing the partial images in a memory space. The 'storing' operation of Boyer is analogous to the 'drawing' as recited in the claim. Furthermore, boyer discloses that this storing operation is performed successively (i.e. sequentially, see col. 5 lines 14-15 of boyer).

Toyofuku additionally discloses storing a partial image as a rotated image (Toyofuku col. 10 lines 46-57), but does not expressly disclose that image is rotated 90 degrees. However, it would have been an obvious matter of design choice to modify the combination of Boyer and Toyofuku by having the partial image stored as a 90 degree rotated image, rather than as an image that has been rotated some other amount. Storing the image as a 90 degree rotated image would have been obvious at the time of the invention because it is consistent with the highly utilized and ubiquitous cartesian coordinate system, and would have resulted in simplified and more efficient computations.

With regard to claims 37 and 38, a computer-readable storage medium that stores a program which causes the computer to execute the steps of a method is essential if the image processing method disclosed in the combination of Boyer and Toyofuku is to function. Therefore, a computer program stored on a storage medium is inherent in these teachings.

9. Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Boyer and Toyofuku as applied to claims 5 and 15 above, and further in view of DeNies (US 2002/0021353 A1). The arguments as to the relevance of the aforesaid combination as applied above are incorporated herein.

With regard to claim 6, which is representative of claim 16, Boyer discloses determining a next file based on the position and viewpoint information (Boyer col. 6 lines 45-52). Boyer fails to expressly disclose that the view point is moving along a road on a map and the view point information is the position and moving direction of the view point.

DeNies, however, discloses recording panoramas while moving along a street (DeNies paragraph 0019) It would have been obvious to one reasonably skilled in the art at the time of the invention to modify the combination of Boyer and Toyofuku to include the additional capability that a view point can change in a moving direction along

Art Unit: 2621

a road on a road map as taught DeNies. Such a modification would have allowed for a more robust system that could have different panoramic images which corresponded to different locations on a map and different view points for each of those panoramic images. This would have allowed for a system that had the additional capability of mobility.

10. Claims 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyer as applied to claims 1 and 11 above, and further in view of Endo et al. (EP 0 921 376). The arguments as to the relevance of Boyer as applied above are incorporated herein.

With regard to claim 7, which is representative of claim 17, Boyer discloses storing  $m \times n$  partial images obtained by  $n$  panoramic images each comprising  $m$  partial images (col. 6 lines 10-30). Boyer further discloses macroblock indentifiers which indicate position data of the partial images (col. 5 lines 18-22). Although Boyer doesn't explicitly state that this position data is a start position of the partial images, Boyer does disclose determining partial images which correspond to a selected image view on the basis of the position information of the selected image view. In order to do this, a start position of a partial image file is inherently stored. Boyer further discloses determining a partial image to be generated based on viewpoint direction information and the angular field of view of the display and obtaining a partial image to be provided according to the header information. Boyer fails to expressly disclose determining a file containing an entire image corresponding to the viewpoint position information.

Endo, however, discloses determining an image file based on the viewpoint position information (Endo paragraphs 0108-0109). It would have been obvious to one reasonably skilled in the art at the time of the invention to modify Boyer's image reproduction apparatus in order to include a mechanism for determining panoramic images based on the position information as taught by Endo. Such a modification would have allowed for a mechanism of tracking the position information of panoramic images in a mobile system.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick L Edwards whose telephone number is (703) 305-6301. The examiner can normally be reached on 8:30am - 5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau can be reached on (703) 305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

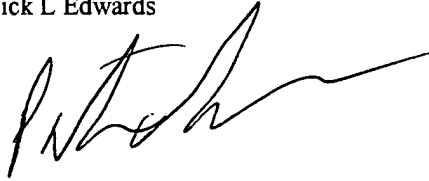


Art Unit: 2621

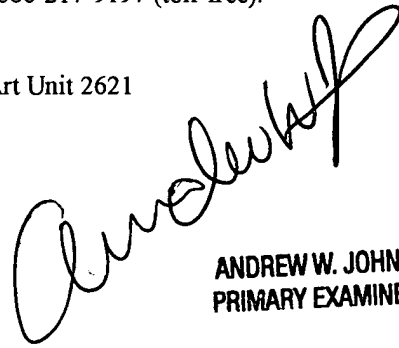
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick L Edwards

ple



Art Unit 2621



**ANDREW W. JOHNS  
PRIMARY EXAMINER**